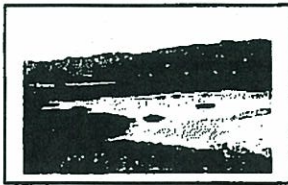


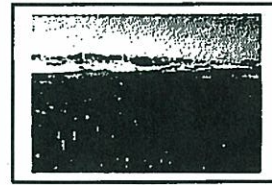
IV. APPENDICES

Appendix 1. Comment Letters Received



(415) 310-5109

Peter R. Baye, Ph.D.
Botanist, Coastal Plant Ecologist
 P.O. Box 65
 Annapolis, California 95412



baye@earthlink.net

via email

Christy Smith
 Manager, San Pablo Bay National Wildlife Refuge
 7715 Lakeville Highway
 Petaluma, CA 94954
Christy_Smith@fws.gov

Larry C. Wyckoff
 California Department of Fish and Game, Central Coast Region
 P.O. Box 47
 Yountville, CA 94599
lwycckoff@dfg.ca.gov

Dear Ms. Smith and Mr. Wyckoff:

I sincerely support the Cullinan Ranch tidal marsh restoration effort of the Refuge, and have anticipated its successful design and implementation after delays for nearly two very long decades. I provide the following critical review of the EIS/R with the intent of identifying flaws and providing constructive solutions to ensure the project's long-term feasibility and success, and to ensure compliance with NEPA and ESA statutes. Although I support the restoration project overall, I have some serious concerns about flaws in the alternatives and their design components, and in the impact analysis. I offer some potential solutions for each criticism.

As you know, I formerly worked for USFWS Sacramento Fish and Wildlife Office, Endangered Species Division, stationed at the San Pablo Bay NWR office at Mare Island. I worked on endangered species recovery planning, primarily on the tidal marsh ecosystem recovery plan (still in preparation), the successor to the Clapper rail/salt marsh harvest mouse recovery plan of 1989. I know the Cullinan Ranch site and vicinity marshes very well from years of field excursions. My comments are informed by a long-term professional career focus on tidal marsh restoration projects in the San Francisco

Peter R. Baye Ph.D.
 Coastal Plant Ecologist
baye@earthlink.net
 (415) 310-5109

1

P.O. Box 65
 Annapolis, California
 95412

Bay area. My NEPA analysis is based on experience as an EIS manager for the Corps of Engineers, and my independent consulting experience as co-author of multiple joint EIS/R documents for marsh management and restoration projects.

My main concern is that the proposed project alternative's wetland restoration engineering design components fail to integrate specific habitat requirements of the target endangered species, and may cause significant but avoidable (mitigable) long-term adverse impacts to wetland habitat quality and endangered species conservation. This is related to some flaws in the project's design in relation to sea-level rise acceleration and restoration techniques that rely almost exclusively on deposition of suspended fine sediment in a deeply subsided environment within a sediment-starved tidal setting.

Rock armor shore stabilization, high marsh habitat gradients, and endangered wildlife habitats

} Comment
1

The project's purpose and need, goals, and objectives clearly identify the restoration or creation of tidal marsh habitat for recovery of endangered marsh-dependent species, such as the salt marsh harvest mouse (SMHM) and California clapper rail (CCR), at the core of the project. Unfortunately, none of the alternatives integrate (implicitly or explicitly) SMHM or CCR critical limiting habitat factors in the design components of the project, or the hydrologic and geomorphic analysis and planning of Appendix A. The most problematic result of this disconnection is the proposed alternative's component of "naked" rip-rap along most of the southern edge of the site. Even if armoring is necessary for ensuring ultimate protection of highway 37 against extreme erosion events, there is no reason why it needs to be exposed at the surface, where it functions as nuisance habitat (suitable for Norway rats and other terrestrial predators, eliminating and displacing suitable high tide cover or foraging habitat for SMHM or CCR). All project alternatives needlessly sacrifice the most important long-term high marsh zone (and estuarine transgression platform during accelerated sea level rise) to nuisance habitat caused by surface exposure of riprap.

The EIS/R fails to subject the Highway 37 flood protection/stabilization component of the alternatives to evaluation of design component alternatives to over 12,000 linear feet of riprap that achieve the same purpose (flood control, erosion protection) but harmonize with the project's basic purposes and objectives. The EIS/R fails to evaluate impacts of rip-rap on long-term restored habitat quality and wildlife, vegetation, or weeds. Riprap has significant impacts on each, even compared with baseline conditions. Specifically, the EIS/R fails to consider mitigation for the prevalence of rip-rap along the southern shoreline of the project. The EIS/R should evaluate a mitigated design component of a "backbone" of riprap covered with a mantle of gently sloped vegetated

fill to dissipate wave energy, reduce wave run-up, and provide beneficial flood refuge habitat and a wide high marsh zone for endangered wildlife.

The EIS/R fails to justify the extensive 12,000+ foot long surface rip-rap and steep, reflective armored shoreline profile along Hwy 37 as a major design component of all project alternatives. There is no cost or feasibility information comparing this component to other components that are less essential to the project's basic purpose of providing habitat for endangered salt marsh wildlife. The design emphasis on riprap (in lieu of dissipative, vegetated high marsh gradients) appears to be endemic to Refuge tidal marsh restoration projects designed by Ducks Unlimited in the North Bay (e.g. Tolay Creek, Tubbs set-back). I can find no other major tidal marsh restoration designs in the Estuary that are focused on endangered species habitat and rely on hard armoring of shorelines. This appears to be an arbitrary design preference rather than an objective justification based on empirical results related to endangered species recovery benefits from past restoration projects using rock slope armoring.

The proposed alternative's wetland design magnifies rather than mitigates the potential for wind-wave erosion along the north bank of Highway 37. Steep rip-rap concentrates incident wave energy and reflects it in chaotic patterns, potentially magnifying wave erosion below the armor strip. Dissipative, broad shoreline profiles, with or without armor backbones, damp most incident wave energy to low levels and reduce wave run-up (Baye 2008, Baye and Leventhal 2008; Cooper 2006). The EIS/R alternatives fail to identify feasible and critical habitat-compatible mitigation measures to address wind-wave energy dissipation in the upper intertidal zone of the restored marsh. This should be corrected in the final EIS/R.

Impacts and mitigation for the salt marsh harvest mouse (SMHM).

] Comment
2

The EIS/R fails to assess the risk of local extinction of the resident salt marsh harvest mouse (SMHM) population with and without the proposed project, and fails to identify mitigation measures to ensure the persistence of at least local founder populations over the predicted prolonged lag (minimum 60 year, likely longer; see comments on sea level rise) in suitable habitat availability.

The EIS/R fails to provide essential information about the status of the SMHM population in the immediate vicinity of the project site (population sources for future immigration), including the 50+ year old Pritchett Marsh (a silted derelict marina) and restored Guadalcanal Village Marsh. The proposed mitigation (self-mitigation) for SMHM impacts is fundamentally flawed because it is predicated in scientifically unsupportable assumptions about predicted 21st century rates of sea level rise and marsh development (see comments on sea level rise). Like other large-scale tidal marsh

restoration projects in diked baylands with resident, fragmented populations of SMHM, the EIS/R must include feasible SMHM mitigation measures or alternatives that provide for interim SMHM habitat (primarily high marsh and well-distributed/within-marsh high tide refuge habitat) and population viability during prolonged salt marsh succession.

There is ample scientific evidence to support the working assumption that the persistence of salt marsh harvest mouse populations requires ample retention of both high intertidal marsh (MHHW to HTL) with abundant, dense cover of pickleweed and associated brackish or salt marsh plain species, and well-distributed high tide cover (gumplant, tidal litter and debris, salt marsh edge shrubs and tall clonal perennials) to serve as flood refuge (Johnston 1957, Fisler 1965, Hadaway and Newman 1971, Shellhammer et al. 1982). In addition, the most recent scientific evidence on SMHM movements within marshes confirms earlier observations that they tend to move within limited home ranges within the marsh (Bias and Morrison 1999), and require local high tide flood refuges – not long-distance distribution to high tide cover across open water (Johnston 1957, Hadaway and Newman 1971). The assessment of project impacts to SMHM fails to take these factors into account, and is inadequate.

The deficiency in constructed high marsh (limited to re-graded perimeter levees and the relatively short 3,500 ft “buttress” levee length), and prevalence of rip-rap as a high tide shore habitat, in combination with no provision for development high marsh within the future marsh plain or slough banks, strongly indicates that the proposed design is extremely unlikely to support suitable habitat for SMHM in the future. The “impact” of BIO-19 is misleading – it suggests that the project contributes significant upland-wetland edge habitat, but it does not disclose the absolute or relative amount of high tide shoreline internal to the project provided by riprap and gentle earthen slopes. The connectivity with these slopes and existing or likely occupied SMHM habitats (making them viable) is not evaluated at all. It also makes no provision to either retain and conserve founder populations of SMHM, or manage for SMHM source populations (if any exist) in adjacent mature salt marshes. Indeed, the EIS/R states that SMHM are no longer found in fringing tidal marshes bordering the site. If so, where will future SMHM source populations be? The EIS/R must address the location and future management of source populations of SMHM.

The EIS/R must identify mitigation to offset the inevitable extirpation of resident SMHM within the subsided diked basin after tidal conversion. The most feasible means to achieve this would be to enhance the degraded (excessively flooded, drainage – obstructed) fringing marsh terrace south of the project site along Hwy 37’s southern edge. Removal of the salt pond 1 intake berm would likely achieve this; previous partial breaching of this large levee side-cast structure was ineffective in the past. This is within

the Refuge's jurisdiction and means. The EIS/R provides no other information on SMHM populations at Guadalcanal Village Marsh or Pritchett Marsh.

In sum, the impact analysis and mitigation for SMHM in the EIS/R is largely meaningless at best, and misleading at worst. It provides almost no effective mitigation for the SMHM impacts (probably local extirpation) of the project. The SMHM habitat requirements and population management should be a central design component of at least one alternative (ideally the proposed alternative), but it is a nominal consideration to the engineering components of all alternatives. This defect must be corrected because it undermines the basic and overall project purposes, goals, and objectives.

Comment
3

Impacts and mitigation for special-status plant species

The EIS/R fails to include basic information about the distribution current (existing conditions, rather than remote past conditions) regarding sensitive plant species known or likely to occur within the project boundary (or effects area) including Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), soft-bird's beak (*Cordylanthus mollis* ssp. *mollis*), and dwarf spikerush (*Eleocharis parvula*). Some of these species have been detected along the fringing tidal marshes of Dutchman Slough as recently as 2002, contrary to the EIS/R statement that they have not been detected after 1997. (*Lathyrus*, *Eleocharis*, *Lilaeopsis*), and are difficult to detect in drought years. The EIS/R substitutes generic and largely irrelevant database information about species not found in tidal marsh ecosystems, and omits habitat-specific, project-specific survey data on sensitive species.

Lathyrus occurs at the toe of the Dutchman Slough levee at 2 locations, and is likely to be adversely impacted by either grading or breaching. It can and should be salvaged and transplanted (or propagated from seed [if available] or vegetative division at the Refuge nursery) during dormancy in November-December prior to construction, as mitigation. Extensive beds of *E. parvula* occur in the pond beds of Cullinan, and are usually unidentified. *Lilaeopsis* location are unstable; they are most evident the year after bank erosion during low salinity years. Mitigation for potentially significant impacts to these special-status plant species should include pre-construction surveys by qualified field botanists, dormant-season salvage or propagation, and reintroduction in suitable restored habitat. Furthermore, I recommend that the Refuge salvage other valuable uncommon native high marsh ecotone species present on Cullinan levees, such as *Centromadia pungens* ssp. *maritima*, and *Leymus triticoides*, and use them to revegetate graded levees and inhibit (competitive displacement) spread of invasive plants.

The EIS/R and alternatives fail to include endangered plants in the basic purpose, goals, objectives and designs for the project alternatives, and without explanation. The site

Peter R. Baye Ph.D.
Coastal Plant Ecologist
baye@earthlink.net
(415) 310-5109

5

P.O. Box 65
Annapolis, California
95412

borders an historic population of soft bird's-beak (federally endangered), close to the type locality at Mare Island. This species should be included in design of at least one alternative.

Impacts of project on spread of non-native plants (BIO 14).

Comment
3
continued

The EIS/R assessment of impacts and mitigation for the spread of non-native invasive plants is cursory and superficial, and entirely disproportionate with the significance of this impact and the success of the proposed alternative. The substantive content of the mitigation measure is merely:

A qualified botanist will conduct a non-native plant assessment of areas subject to construction activities including grading and earthwork. Recommendations will be made to control the spread of non-native species. Measures may include establishment of wash stations for construction vehicles and equipment to clean tires of weeds and other propagules before they enter and leave the Site and development of an herbicide spray program to destroy perennial pepperweed or other invasive infestations prior to construction.

The proposed mitigation for spread of non-native invasive plants is vague (the only criterion is "a qualified botanist"), unenforceable (contains no substantive standards for spread rate, or abundance or type of non-native species), and impermissibly defers (unspecified "recommendations will be made") the formulation of substantive, feasible mitigation measures. The assessment does not even identify and distinguish high-priority and low-priority invasive plant threats to the project. For reasons unexplained, it focuses on the distribution of pampas grass in existing conditions (Fig 3.2-1b; no other invasives mapped). This species does not grow in tidal marshes, and is rarely a management problem on levees. In contrast, real and urgent threats such as *Lepidium latifolium*, *Dittrichia graveolens*, and *Agrostis avenacea* (both present at or adjacent to the site and highly capable of rapidly dominating disturbed tidal marsh levees) are scarcely discussed in terms of specific control strategies with enforceable methods and standards.

The EIS/R should include mitigation based on pre-emptive control of high-threat invasive plants, focusing on suppression of seed production or eradication prior to grading and disturbance of levees. The EIS/R should specify appropriate methods and thresholds for control of high-threat non-native invasive species, and performance standards (unacceptable levels of distribution or abundance, or seed production, that trigger substantive and feasible adaptive management actions)

Sea level rise and project design: consequences for assessment of significant impacts, and mitigation.

comment
4

The EIS/R utilizes outdated and deeply flawed assumptions regarding rates and magnitudes of sea level rise during the projected (approximate) 60 year period of tidal marsh maturation. The underestimation of a reasonable range of sea level rise rates in the 21st century is inconsistent with current CALFED scientific review policy recommendations (Attachment 1) and most contemporary tidal marsh restoration planning in the Estuary. This flaw results in erroneous and misleading predictions regarding the likelihood of meeting some basic project objectives, and the ability of the project to "self-mitigate" for impacts to endangered species. Underestimation of sea-level rise, and failure to include appropriate mitigation for cumulative impacts of sea-level rise, may induce significant long-term conflicts between wetland resources and highway infrastructure protection.

Appendix A (5.2, p. 5-22) states that an assumption of 2.0 mm/yr sea level rise was used in hydrologic modeling and analysis, "consistent with median-level predictions of IPCC". Not only are the 2001 IPCC predictions outdated and scientifically supportable today, but even the current IPCC predictions grossly underestimate likely actual rates of 21st century sea-level rise because they omit the highly significant influence of ice sheet wasting and glacial retreat. The EIS/R must use the best available scientific data to assess impacts and mitigation requirements. In September 2007, CALFED's science program requested recommendations from its Independent Science Board regarding sea level rise predictions for CALFED planning purposes. Recommendations were prepared by Prof. Jeff Mount, and are attached in this letter (Attachment 1). Mount critiques the IPCC assumptions and methodology.

This EIS/R should, as a matter of due diligence, keep up to date and consistent with the best available CALFED scientific advisory information regarding this critical physical forcing variable for tidal marsh restoration. The CALFED ISB advises that the most recent empirical models project a mid-range rise this century of 70-100 cm (28-39 in.) with a full range of variability of 50-140 cm (20-55 in.). In contrast, the EIS/R unreasonably assumes that sea level rise (2 mm/yr) would result in only 20 cm/century. It would be arbitrary and capricious for the lead agencies to persist in utilizing the outdated assumptions of 20 cm/century sea level rise.

The EIS/R's systematic underestimation in sea level rise is highly significant for prediction of project success and impacts. Even with an unduly optimistic slow rate of 20 cm/century sea level rise assumed, Appendix A forecasts with many caveats that approximately 60 years would be needed to restore "mature tidal marsh" and without specific reference to the critical limiting sub-habitats (high marsh) for endangered

Peter R. Baye Ph.D.
Coastal Plant Ecologist
baye@earthlink.net
(415) 310-5109

7

P.O. Box 65
Annapolis, California
95412

species. With more realistic assumptions of sea-level rise rates, the proposed project alternative could not feasibly attain its goals even within this extraordinarily protracted time period. This conflict points clearly to the need for restoration engineering designs (or mitigation measures) that do not rely entirely on passive tidal sedimentation at this location, particularly for the critical high marsh habitats.

The real problem of accelerated sea-level rise amplifies the inherent feasibility problem of excessive site subsidence, deficient sediment supply, and excessively energetic depositional environment of tidally flooded Cullinan Ranch. Appendix A indicates that relatively low suspended sediment concentrations (in the range of 93-115 mg/l) are likely to be prevalent in the tidal source sloughs for restoration. Given the relatively low sediment supply, deep subsidence (5-6 ft; Appendix A, 3.1), predicted tidal damping, and long fetch of exceptionally deep water within the tidally breached bayland along dominant westerly/northwest winds (inducing persistent wind-wave turbulence, resuspension of fine sediment), it should be clear that an alternative with increased selective fill to create local marsh topography and elevation is needed to meet project objectives. The EIS fails to assess an alternative design (or design components), or mitigation measures, to address the inherent deficiencies in the project's ability to generate well-distributed high marsh and marsh plains during a century of accelerated sea level rise.

The following design components should be assessed as feasible project mitigation measures for the interactive (cumulative) impacts of sea level rise, tidal restoration, and sediment deficits:

- Internal channel bank levees along segments of relict tidal slough beds, similar to those used in some Napa salt pond restoration designs, and the Sears Point tidal marsh restoration design. Constructed high intertidal levees would provide well-distributed high marsh refuge for future resident tidal marsh-dependent wildlife, and would attenuate wave energy generation and propagation within the tidally restored bayland. Alternatively, other constructed compatible interior marsh topographic high features may be included.
- Prevalent dissipative shoreline profiles with widened, gentle upland-marsh gradients, such as artificial alluvial fans (hydraulic discharge of variable texture sediment) to provide gentle slopes, vegetative stabilization, damping of incident wind-wave energy, and ample high marsh and high tide flood refuge for resident tidal marsh-dependent wildlife, including the endangered salt marsh harvest mouse. Alternative fill sources from the project vicinity, such as Mare Island dredge ponds and the derelict Pond 1 intake channel berms (south of Hwy 37) should be evaluated. The proposed prevalence of rip-rap shoreline edge, in

contrast, cannot provide these functions or mitigate the impacts of accelerated sea-level rise on the project design; indeed, rip-rap would amplify impacts by reflecting wave energy and concentrating it in a narrow zone, displacing potential flood refuge -habitat. The project cost and benefits of gentle, wide upland-marsh gradients should be compared with other project components, including rip-rap, highway access improvements, and dredging of Pond 1.

Fill sources: impacts, benefits, and mitigation potential.

Comment
5

The EIR/S states that a likely source of sediment/fill for levee rehabilitation/improvement would be the dredging of Pond 1, but it fails to assess potential significant impacts of using Pond 1 as a sediment source, or its relative impacts or benefits compared with alternative nearby sources of sediment.

No information is presented on the physical or chemical composition of Pond 1 sediments, or their engineering suitability in a tidal wetland context. Pond 1's anoxic shallow subtidal organic bed sediments (black mud) are likely to contain high concentrations of sulfides and organic matter that would be likely to release significant concentrations of ammonia and acid sulfates (adverse for native high marsh revegetation, conducive to weed invasion), and may liberate excessive methylmercury if placed in the upper intertidal zone or subaerial environments. The EIR must evaluate the impacts and feasibility of using Pond 1 sediments as wetland fill if it includes this measure as a component of the proposed design. It must also compare this alternative fill source with other potentially feasible fill sources, and evaluate relative impacts, mitigation needs, and environmental benefits (NEPA).

The indirect habitat benefits, or project mitigation potential, of dredging pond 1 as the source of 70,000-100,000 cubic yards should be compared with other potential local sources of suitable fill. Pond 1 (CDFG) dredging would primarily benefit waterfowl habitat. Waterfowl habitat is desirable from the perspective of the Refuge's overall mandate, but not a primary goal of this tidal marsh restoration project. In contrast, the removal of the side-cast berms of the Pond 1 intake channel would very likely abate an extensive marsh drainage and flooding problem that severely constrains the habitat quality and population viability of the salt marsh harvest mouse on Refuge's fringing tidal marsh south of the project site, along the N shore of San Pablo Bay. The berms are the primary artificial obstruction to the marsh's drainage. Wave-built natural levees (marsh berms) along the mudflat edge of the marsh naturally constrain the drainage of the broad high marsh terrace, forcing it to drain in long shore-parallel swales (Atwater et al. 1979). The removal of the useless salt pond intake berms as a fill source for Cullinan Ranch would very likely cause far greater increase in the size and stability of the salt marsh harvest

mouse population on the Refuge in a few years than all of Cullinan Ranch could in a century, even with mitigated designs. The marsh terrace is a distinct geomorphic marsh type built above MHHW by wave deposition and storm surge overwash (Atwater et al. 1979), and has inherently more SMHM high marsh habitat potential than marsh plains formed in wave-sheltered slough environments, which equilibrate near or below MHHW elevation.

If Mare Island dredge pond sediments from Mare Island strait are evaluated for chemical suitability as wetland restoration fill, and are feasible in terms of cost, logistics, and contaminants, they would provide a local source of mineral sediment with better physical and chemical properties for levee construction and high marsh substrate, compared with sulfide-rich shallow subtidal fine sediment of Pond 1. The EIS fails to evaluate and compare any off-site feasible fill sources for the project.

Other EIS/R comments, corrections

Ditch block function in a pre-vegetated subtidal basin. It is clear to me why ditch blocks are needed in tidal restoration sites with intertidal marsh plains and relict ditches that interfere with natural complex tidal creek drainage patterns. But given that the Cullinan site is subsided to subtidal elevations, and will have an initial sedimentation regime with damped tidal range, it is not clear why existing ditches choked with dense fibrous emergent tule/cattail marsh vegetation would need ditch blocks. Bed roughness in ditches should trap sediments and seal most ditches. This site is entirely unlike the Napa salt ponds in this regard. The project cost for ditch blocks should be reassessed. If cattail/tule choked ditches are found to be strong sediment sinks, it would be advantageous to reallocate project resources to pre-construction of high marsh habitat.

Pre-flooding component of project design. I was unable to find explicit reference to the fate of existing vegetation on the site, which will obviously be flooded and drowned. The physical remains of persistent tall, dense woody and fibrous vegetation cover (tule, cattail, red gum (*Eucalyptus camaldulensis*), coyote brush) could and should provide ample bed roughness to damp wave energy, stabilize the bed, and facilitate sediment trapping after tidal conversion. Grading or grubbing this vegetation prior to tidal conversion would work against the project's objective to facilitate sedimentation and marsh plain development.

Names and locations of marshes. Figure 2.2 confuses Pritchett Marsh with Guadalcanal, and identifies the Figueris Tract lagoon as Guadalcanal. Pritchett Marsh is inconsistently spelled as Pritchard in the EIS/R and appendices.

NEPA impact analysis: (p. 30) In NEPA, the purpose of the impact analysis of an EIS is not to focus on the determination whether an impact is significant; that is the job of an EA and FONSI. See NEPA regulations at 1502.16. The purpose of the EIS impact analysis is to compare alternatives in terms of short-term and long term effects, indirect effects, conflicts among resource uses or management, and means to mitigate conflicts or impacts. The goal of NEPA is to harmonize uses of the environment and pursue alternatives that lessen impacts to the human environment. This EIS is treating NEPA as though it were CEQA (focus on mitigation for significant impacts only). This should be corrected in the final joint NEPA-CEQA document.

Comment
9

Thank you for considering my critical review of the EIS/R. I regret that there were some strong criticisms, but I hope I can "mitigate" for these by providing any voluntary technical support if it would be helpful. Please contact me if you have any questions.

Respectfully submitted,



Peter R. Baye, Ph.D.

Cc:

Jim Browning, USFWS – Sacramento

Valary Bloom, USFWS – Sacramento

Citizens Committee to Complete the Refuge, Palo Alto

Marin Audubon Society

Peter R. Baye Ph.D.
Coastal Plant Ecologist
baye@earthlink.net
(415) 310-5109

11

P.O. Box 65
Annapolis, California
95412



Marin Audubon Society

P.O. Box 599 | MILL VALLEY, CA 94942-0599 | MARINAUDUBON.ORG

June 17, 2008

Christy Smith, Manager
San Pablo Bay National Wildlife Refuge
7715 Lakeville Highway
Petaluma, CA 94954

Post-it® Fax Note	7671	Date	6/17/08	# of pages	3
To	Christy Smith	From	John S. Smith		
Co./Dept.		cc.	MAS		
Phone #		Phone #	415 924 6087		
Fax #		Fax #			

RE: CULLINAN RANCH DRAFT EIR/EIS

Dear Ms. Smith:

The Marin Audubon Society appreciates the opportunity to review the long-awaited DEIS for Cullinan Ranch Restoration Project. It has been many years since we supported Napa Solano Audubon Society and others both in opposing development of Cullinan Ranch and in urging the Service to purchase of the property. The justification for its purchase was to provide Clapper Rail habitat. We support the preferred alternative because it will restore maximum tidal marsh habitat for Clapper Rails and because this was the historic condition of the site. We have, however, a few questions and comments:

Project Design

Filling the site with water and then breaching is an interesting approach, not a design we have used. Has this method been used at any other locations? Is it a proven successful way of cutting natural channels? It will certainly be cheaper than excavating channels.

Transition Zones

BIO-19 We support the construction of 10:1 levee slopes wherever possible. Gradual slopes are essential as high tide refugia habitat for Clapper Rail and Salt Marsh Harvest Mouse. It will be important to have refugia throughout the site, particularly with the riprap planned for the long distance along Highway 37. The discussion on page 49 states that interior levees would be flattened to improve habitat in the short term, but there is no figure showing where these would be. Where will these gradually sloping areas be located? They should be located around the entire site to maximize refugia opportunities. Also, consider filling spaces between the rock riprap along highway 37 with dirt to reduce rat habitat and allow plants to grow thereby providing some refugia opportunities along this long stretch?

Levee Height

Is 9 feet really a high enough levee to protect 37, particularly with the anticipated sea level rise? Discuss the BCDC findings on sea level rise and their relevance to this site.

Public Access Impacts

Provide an analysis of the potential impacts of a boardwalk and the use of the boardwalk on the Clapper Rail and other species that would use the marsh. Explain why a boardwalk for public

A Chapter of the National Audubon Society

access is even needed. A raised boardwalk will direct people into and over marsh rendering the adjacent marshes less usable for wildlife. "Humans and dogs are perceived by wildlife as predators.... Human intrusion into wildlife habitat, especially into relatively open wetlands, creates a disturbance footprint much larger than the size of the person or width of the path" (Jules Evens, 5/27/08). Boardwalks are access corridors for predators, block light preventing plants from growing, and they are high maintenance because the wood decays relatively quickly. Why can't the public view the marsh and wildlife from the levee and the kiosk?

Another explanation for the boardwalk is that it is needed for fishing. People fish in Pond 1 from the levee now, why can't they fish from the same levee into the Cullinan Marsh? Besides, fishing opportunities will be available for only a limited time, until the site fills and marsh restores. What provisions are there to ensure anglers do not leave fishing lines, hooks and other debris around, as is sometimes seen at fishing areas, and that any debris is cleaned up?

We also ask why a kayak portage is included? This seems inappropriate at a site that was purchased for endangered species. Discuss the potential impacts of boat use on endangered species and migratory diving ducks that are expected to use the restored marsh. Kayakers and other boaters frighten wildlife using the channels, even the kayaks are quiet, and they haul up on marshes destroying marsh plants. Figure 2-2 shows a channel terminating at the kayak portage. The channel will surely fill in over time. As part of constructing a kayak portage, is the Service committing to regular dredging to keep this channel open? Discuss the potential impacts of maintenance dredging on Clapper Rails? Wouldn't a better location for kayak use be near the Napa River or other deeper channel? Are there other portages in the area that could be used?

What oversight and enforcement program does the Service have that will ensure there is not overuse and activities that degrade and destroy habitat and impact wildlife?

Habitat Impacts

BIO-11 In the discussion on page 112, the loss of waterfowl habitat is deemed 'less than significant' because there is "an abundance of waterfowl habitat in the vicinity." Historically the north Bay has extensive wide channel system that provided habitat for diving ducks. While there may currently be extensive habitat for diving ducks, many of the old salt protection intended to restore to tidal marsh. How open water habitat will be left after the tidal marshes restore? The Service should ensure that impacts to diving birds using the channel are kept to a minimum. and that diving duck populations are monitored

Thank you for considering our concerns.

Sincerely,

Barbara Salzman.

Conservation Committee



ARNOLD SCHWARZENEGGER
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



CYTHIA BRYANT
DIRECTOR

July 30, 2008

Larry Wyckoff
California Department of Fish and Game
Central Coast Region
P.O. Box 47
Yountville, CA 94599

Subject: Cullinan Ranch Restoration Project
SCH#: 2007092004

Dear Larry Wyckoff:

The enclosed comment (s) on your Joint Document was (were) received by the State Clearinghouse after the end of the state review period, which closed on June 12, 2008. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2007092004) when contacting this office.

Sincerely,

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

Fish & Game

JUL 31 2008

Yountville

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov



Mending San Francisco Bay Better

CLEAR
6.12.08
LATE
e

July 28, 2008

California Department of Fish and Game
Central Coast Region
P. O. Box 47
Yountville, California 94599

ATTENTION: Larry C. Wyckoff

SCH#: 2007092004

SUBJECT: Draft Environmental Impact Report and Draft Environmental Impact
Statement (DEIR/DEIS) for the Cullinan Ranch Restoration Project

Ladies and Gentlemen:

On April 30, 2008, the San Francisco Bay Conservation and Development Commission (Commission) staff received the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) for the Cullinan Ranch Restoration Project, located north of Highway 37, in unincorporated areas of Solano and Napa Counties. The project would restore tidal influence to approximately 1,525 acres of land formerly known as Cullinan Ranch.

Although the Commission itself has not reviewed the DEIS/DEIR, the staff comments discussed below are based on the McAteer-Petris Act, the Commission's *San Francisco Bay Plan* (Bay Plan), the *Public Access Design Guidelines*, the Commission's federally-approved management plan for the San Francisco Bay, and the federal Coastal Zone Management Act (CZMA).

Jurisdiction

The Commission's permit jurisdiction includes all tidal areas of the Bay up to the line of mean high tide or to the inland edge of marsh vegetation up to five feet above Mean Sea Level in marshlands, all areas formerly subject to tidal action that have been filled since September 17, 1965, and a shoreline band extending 100 feet inland from and parallel to the shoreline. The Commission also has jurisdiction over managed wetlands adjacent to the Bay, salt ponds, all named sloughs, and certain waterways.

At Cullinan Ranch, the Commission primarily has "certain waterway" jurisdiction, although some portions of the Ranch along its extreme southern boundary may also fall within the "100-foot shoreline band" jurisdiction. In addition, the majority of the proposed project lies within a Priority Use Area of the Bay Plan and is designated as Wildlife Refuge on Bay Plan Map 2.

Federal actions, permits, and grants affecting the coastal zone are subject to review by the Commission, pursuant to the federal CZMA, for their consistency with the Commission's federally approved management program for the Bay.

Larry C. Wyckoff
Department of Fish and Game
July 28, 2008
Page 2

Although it is difficult to determine at this stage, the exact area and scale of activities within the Commission's jurisdictions, from reviewing the DEIS/DEIR, it appears that portions of the following elements of the proposed project may involve work within the Commission's "certain waterway" and "shoreline band" jurisdictions: (1) the installation of water control structures; (2) the construction of some public access facilities; (3) the pre-flooding of Cullinan Ranch prior to breaching levees; (4) breaching levees along Dutchman and South Sloughs and Guadalcanal Village and redistributing the material onsite; and (5) constructing a new approximately nine-foot buttress levee adjacent to a portion of Highway 37.

The FEIS/FEIR should identify and quantify the areas and activities that would occur within the Commission's jurisdictions and include any protective measures such as BMP's to ensure that Bay resources are protected during construction activities, and to minimize adverse impacts to water quality and fish and wildlife when the levees are initially breached.

Comment
1

Wildlife Refuge Priority Use Area

Bay Plan Map 2 designates the proposed project site as a wildlife refuge priority use area. Development of property within a priority use area is governed by the Bay Plan policies for the specified use. The Bay Plan policies on managed wetlands state in part, that, "Areas diked from the Bay have high-value wildlife habitat and restoration potential." Further the policies state, that, "Any project for the restoration, enhancement or conversion of managed wetlands to subtidal or wetland habitat should include clear and specific long-term and short-term biological and physical goals, success criteria, a monitoring program, and provisions for long-term maintenance and management needs. Design and evaluation of the project should include an analysis of:

Comment
2

- a. The anticipated habitat type that would result from managed wetland conversion or restoration, and the predicted effects on the diversity, abundance and distribution of fish, other aquatic organisms and wildlife;
- b. Potential fill activities, including the use of fill material such as sediments dredged from the Bay and rock, to assist restoration objectives;
- c. Flood management measures;
- d. Mosquito abatement measures;
- e. Measures to control non-native species;
- f. Opportunities for a diversity of public access and recreational activities; and
- g. Water quality protection measures that may include monitoring for constituents of concern, such as methylmercury."

In areas where a priority use designation extends beyond the Commission's 100-foot shoreline band jurisdiction, the designation is generally advisory only. However, for projects that require a federal permit, such as a permit from the U. S. Army Corps of Engineers, BCDC can assert federal consistency authority through the Coastal Zone.

Larry C. Wyckoff
Department of Fish and Game
July 28, 2008
Page 3

Management Act. Under this authority, the Commission must determine whether the proposed project is consistent with the policies of the Bay Plan and whether the project would have an adverse impact on the coastal zone. The FEIS/FEIR should include an analysis of the project's consistency with the wildlife refuge priority use area.

Public Access

The Commission's law requires that projects in the Commission's jurisdiction provide the maximum feasible public access consistent with the project. The Bay Plan's policies on public access state that, "...maximum feasible public access to and along the waterfront and on any permitted fills should be provided in and through every new development on the Bay or on the shoreline, whether it be for housing, industry, port, airport, public facility, wildlife area or other use, except in cases where public access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts...In these cases, in lieu access at another location preferably near the project should be provided...." Additionally, the policies state that, "public access to some natural areas should be provided to permit study and enjoyment of these areas. However, some wildlife are sensitive to human intrusion...public access should be sited, designed and managed to prevent significant adverse effects on wildlife." Further, these public access policies conclude that this impact can be mitigated—and thereby rendered "less than significant"—by working with our staff and California Department of Fish and Game (CDFG), to meet the Commission's conditions and CDFG's laws and policies regarding public access to the Bay and sensitive status wildlife species.

Currently, there is no public access at the site except for CDFG's Pond 1 levee, which would also serve as a public access point to the western boundary of Cullinan Ranch. The proposed preferred alternative action would result in several public access improvements to this existing access, including: (1) widening the Highway 37 embankment; (2) installing paved deceleration and acceleration lanes on the north side of Highway 37; (3) relocating an existing gravel parking area and paving it to accommodate approximately 10 vehicles; (4) installing public use facilities such as a kayak launch, benches, and interpretive signs on a pad adjacent to the parking lot; and (5) installing a pier for fishing and wildlife viewing. These improvements seem to be consistent with the Commission's public access policies.

The Bay Plan Public Access policies go on to state that, "...[p]ublic access improvements provided as a condition of any approval should be consistent with the project and the physical environment, including protection of the Bay natural resources, such as aquatic life, wildlife and plant communities, and provide for the public's safety and convenience. The improvements should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should permit barrier free access for the physically handicapped, and should be identified with appropriate signs...[Policy No. 6]." Additionally, the policies state, "[a]ccess to and along the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare...[Policy No. 8]." The Public Access Design Guidelines state that, "access areas are utilized most if they provide direct connections to public rights-of-way such as streets and sidewalks...[and]...should be planned in collaboration with local governments" to provide for future connections. The Guidelines further state that this may be accomplished by "providing connections perpendicular to the shoreline at regular intervals...to maximize the opportunities for accessing and viewing the Bay."

Comment
3
Reference
P. Bay
Comment 1

Larry C. Wyckoff
Department of Fish and Game
July 28, 2008
Page 4

A key concern that is likely to be raised is that, as the project site occupies an approximately two-mile stretch of Highway 37, and as bicycle and pedestrian access has been or is being developed to the east (White Slough, Guadal Canal) and to the west (Sears Point and Sonoma Bay), restoring Cullinan Ranch without bicycle and pedestrian access across its length would create a significant barrier for the Bay Trail. While we appreciate the difficulties and expense of such a bike/pedestrian connection, the FEIS/FEIR should also discuss the possibility of providing some public access to connect to the existing Guadal Canal Village overlook and parking area.

This project, as proposed, will likely require review by the Design Review Board. We would be happy to discuss the public access and design policies with you before presenting to the DRB.

Public Views

The Commission also evaluates a project's potential impacts on public views of the Bay, particularly from public roads. The Commission's Bay Plan policies on appearance, design and scenic views state, in part, "[a]ll bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas...." While we expect the project to have a beneficial impact on views, the FEIS/FEIR should include a brief analysis and any figures depicting the potential view impact of the project from the immediate and nearest public road showing how the Bay view would be affected from that location.

Comment
4

Water Quality

The Bay Plan's policies on water quality state that, "new projects should be sited, designed, constructed and maintained to prevent, or if prevention is infeasible, to minimize the discharge of pollutants to the Bay...." Additionally, in order to protect the Bay from the water quality impacts of non-point source pollution, "new development should be sited and designed consistent with standards in municipal stormwater permits and state and regional stormwater management guidelines...." The FEIS/FEIR should evaluate the potential impacts of the proposed project on Bay water quality and should propose best management practices and mitigation measures to minimize adverse impacts to water quality, particularly from runoff from disturbed lands when the levees are breached.

Comments

Sea Level Rise and Safety of Fills

The Bay Plan findings and policies on the safety of fills discuss the need to account for climate change and sea level rise in the Bay. The Bay Plan policies on the safety of fills state that, "[t]o prevent damage from flooding, structures on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by component engineers." Additionally, the policies state that, "[t]o minimize the potential hazard to Bay fill projects and bayside development from subsidence, all proposed development should be sufficiently high above the highest estimated tide level for the expected life of the project or sufficiently protected by levees...." Finally, the policies state that, "[l]ocal governments and special districts with responsibilities for flood protection should assure that their requirements and criteria reflect future relative sea level

Comment
6

Larry C. Wyckoff
Department of Fish and Game
July 28, 2008
Page 5

rise and should assure that new structures and uses attracting people are not approved in flood prone areas or in areas that will become flood prone in the future, and that structures and uses that are approvable will be built at stable elevations to assure long-term protection from flood hazards."

The FEIS/FEIR should include an analysis of how an increase in sea level under multiple sea level rise scenarios could impact the proposed project particularly Highway 37 and the public access areas to be provided. This should include information on (1) current elevations of the Highway and project site and recent data, if available, documenting the vertical land motion (e.g., subsidence or uplift); (2) current rates of sedimentation, if known for the project site or sites located nearby (important to assess the long term viability of the proposed marshland); (3) estimated rate of relative sea level rise for the project area (relative sea level rise equals the sum of the change in global sea level and the change in land elevation); (4) projected hydraulic changes around the project site that would result in a change in tidal heights, duration of ponding, drainage, erosion, or sedimentation; and (5) levee heights around the project site necessary to protect adjacent property from flood tides estimated for at least a 50-year period. Sea level rise scenarios should not include rates of global sea level rise less than the rate of global sea level rise in the past 100 years or 0.076 in (1.9 mm) per year. The following rates of global sea level rise are generally consistent with the California Climate Action Team Reports on Climate Change: (1) a low rate of 0.08 inches (2 mm) per year; (2) a medium rate of 0.18 in (4.6 mm) per year; and (3) a higher rate of 0.33 in (8.4 mm) per year.

Thank you for the opportunity to comment on this DEIS/DEIR. If you have any questions regarding this letter or the Commission's policies, please contact me at (415) 352-3617 or kerrid@bcdc.ca.gov.

Sincerely,

Kerri A. Davis

KERRI DAVIS
Coastal Program Analyst

KD/mm

cc: State Clearinghouse
Christy Smith, U. S. Fish and Wildlife Services

Comment 7

comment 8

comment 9

comment 10

comment 11

Comment 11



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

June 24, 2008

Christy Smith
Refuge Manager
San Pablo Bay National Wildlife Refuge
7715 Lakeville Highway
Petaluma, CA 94954

Subject: Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR)
for the Cullinan Ranch Restoration Project, Solano and Napa Counties, California
(CEQ # 20080160)

Dear Ms. Smith:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Thank you for agreeing to accept EPA's comments 1-week past the comment deadline. Our detailed comments are enclosed. EPA staff will be attending the site visit on July 9, 2008 and may provide additional input at that time.

EPA supports the project, which proposes to restore tidal influence to the Cullinan Ranch site creating over 1,500 acres of tidal marsh habitat for the benefit of the endangered salt marsh harvest mouse and California clapper rail. While we support the project, the DEIS/EIR lacks key information, especially regarding the management of contaminated sediments, impacts of the project on the larger San Pablo Bay sediment budget, and implementation of the adaptive management strategy. We recommend the Final EIS include this information. We also recommend additional mitigation measures be identified and adopted for reducing construction-related impacts to air quality. We have rated the DEIS as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "Summary of Rating Definitions").

EPA appreciates the opportunity to review this DEIS. When the FEIS is released, please send one hard copy and CD to this office at the above address (mail code: CED-2). If you have any questions, please contact me at 415-972-3846 or Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

Nova Blazej, Manager
Environmental Review Office

Printed on Recycled Paper

**Enclosure: Summary of EPA Rating Definitions
 EPA's Detailed Comments**

**cc: Rob Lawrence, U.S. Army Corps of Engineers
 Steve Goldbeck, San Francisco Bay Conservation and Development Commission**

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

Contaminated Sediments

The DEIS/EIR identifies contamination present onsite from historic land uses including several metals and pesticides above pollutant criteria levels (p. 123). The Contaminant Sampling Report in Appendix D concludes that the presence of some contaminant levels detected on site may pose unacceptable ecological risk. These include zinc levels at the Pole Barn Area, and nickel, DDT's and total chlordane levels at the Farmyard Area (Appendix D, p. 16-17).

comment
1

The DEIS/EIR states that as a mitigation measure, selected remediation would be implemented within areas on the Cullinan Ranch Site where dredging and soil-moving would occur during construction (p. 125). No additional information is included; the document does not discuss the locations of proposed dredging/soil movement in relation to detected contamination or how selected remediation will occur.

EPA generally concurs with the information, interpretations and findings presented in Section 3.3 of the impact assessment; however, it is not clear how the criteria used to evaluate contaminant levels (p. 122) were applied to assess significance of impacts, per the significance criteria identified on page 124. Additional clarification of this would be helpful.

Recommendation: Include specific information in the Final EIS (FEIS) regarding plans to address contaminated sediments that will be disturbed. Discuss detected contamination in relation to the locations slated for disturbance for the two action alternatives (we recommend including maps of areas to be disturbed). Identify the methods or protocols to be used for remediation, including the remediation goals/criteria, potential remediation options, responsible parties, and any oversight agencies/authorities.

Provide additional clarification on how the criteria used to evaluate contaminant levels correlates with the significance criteria used in the impact assessment.

Sediment Dynamics

The DEIS/EIR references and states project consistency with the Bay Conservation Development Commission's (BCDC) San Francisco Bay Plan (p. 133). The Bay Plan requires that any tidal restoration project design include an analysis of the impact of the project on the Bay's sediment budget (p. 129). While there is some discussion of sediment dynamics in Appendix A, the discussion primarily regards the restoration site and does not include effects of the project on sediment dynamics across San Pablo Bay.

comment
2

Recommendation: EPA recommends that the FEIS include a discussion of sediment dynamics which addresses how increasing the tidal prism may affect the overall Bay sediment budget. The discussion should address whether/how much loss of San Pablo Bay mudflat might be caused or accelerated by creation of a large new "sediment sink" at the restoration site and whether this would be significant. EPA encourages USFWS to consult with BCDC and the U.S. Army Corps of Engineers to see what sediment

modeling work may exist to inform this discussion. Existing sediment modeling may be helpful in evaluating project goals and impacts at the Cullinan Ranch site.

Adaptive Management

The DEIS/EIR states that an adaptive management strategy will be used to ensure a fully functioning tidal marsh is established and that the long-term project monitoring component will facilitate this strategy (p. 50). No further information is provided regarding the adaptive management strategy, however. The document states that the impact assessment assumes tidal marsh characteristics will dominate within 70 to 100 years after project initiation (p. 106). More information regarding the monitoring objectives and decision-making strategy in relation to this timeline is needed to fully understand the project.

Comment
3

Recommendation: The FEIS should provide specific information regarding the adaptive management strategy, preferably including the strategy as an attachment to the FEIS. At a minimum, the FEIS should identify the key elements of the strategy including: monitoring objectives and timelines; information needs; needed financial, technical, and human resources; identities of responsible parties; the process for evaluating monitoring results including indicators and criteria; the process for altering management decisions; the data management process; and the process for communicating results.

Air Quality

The site is located in a marginal nonattainment area for the National Ambient Air Quality Standard (NAAQS) for ozone, and nonattainment for the California Ambient Air Quality Standard (CAAQS) for ozone and particulate matter greater than 10 microns in diameter (PM₁₀) (p. 159). The DEIS/EIR indicates that construction related emissions of PM₁₀ are expected to total 1.2 tons per year and that mitigation measures are needed to reduce impacts below significance (i.e. to comply with the Bay Area Air Quality Management District (BAAQMD) guidelines regarding construction activities) (p. 162). Several mitigation measures are included to reduce PM₁₀ emissions associated with construction, per the BAAQMD California Environmental Quality Act (CEQA) Guidelines.

Comment
4

The DEIS/EIR concludes that the emissions of ozone precursors from the project would have no adverse effect (NEPA determination) and therefore no mitigation is required (p. 17). This conclusion may be consistent with CEQA, however under NEPA, the Council on Environmental Quality (CEQ) has instructed Federal agencies that the:

"mitigation measures discussed in an EIS must cover the range of impacts of the proposal", and that "all relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperating agencies.... This will serve to alert agencies or officials who can implement these extra measures, and will encourage them to do so. ... Because the EIS is the most comprehensive environmental document, it is an ideal vehicle in which to lay out not only the full range of environmental impacts but also the full spectrum of appropriate mitigation...."¹.

¹ 40 Most Asked Questions Concerning CEQ's NEPA Regulations, 40 CFR Parts 1500-1508, Federal Register, Vol. 46, No. 55, March 23, 1981, Question #19

We also note that in the NEPA Record of Decision, the Federal agency is required to state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not (40 CFR 1505.2(c)). As such, all practicable mitigation measures should be identified.

The DEIS/EIR indicates that the project could require almost 15,000 truck trips to and from the site for importing off-site materials (p. 146). The DEIS/EIR estimates that 5.0 tons per year (tpy) of nitrogen oxides and 0.5 tpy of reactive organic gases would be emitted by the project construction. Because the project will occur in an ozone nonattainment area and will emit harmful diesel particulate matter, appropriate mitigation to reduce combustion pollutants from diesel engines should be identified. Additionally, the DEIS/EIR does not include any information as to how the emissions of PM₁₀ and ozone precursors were calculated.

Recommendation: In the Final EIS (FEIS), identify how the PM₁₀ and ozone precursor emissions were calculated.

EPA recommends that mitigation to reduce combustion pollutants from diesel engines be identified and adopted as part of the project. Examples of such mitigation follow.

- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking.
- Lease new, clean equipment meeting the most stringent of applicable Federal or State Standards. In general, only Tier 2 or newer engines should be employed in the construction phase.
- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. Engine certification data can be found at the EPA Engine Certification Data web page: <http://www.epa.gov/OMS/certdata.htm>.
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations
- Utilize EPA-registered particulate traps and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site.

Additional comments / Need for additional information

- The DEIS/EIR states that the augmentation of the Pond 1 levee, the armoring the PG&E tower footings (p. 58), and reinforcement of Highway 37 levee will require the use of over 114,000 cubic yards of off-site materials. The document states that beneficial reuse of offsite material would be consistent with the main goal of the San Francisco Bay Long Term Management Strategy for Dredging (LTMS). The document should elaborate on

Comment
5

what types of off-site materials are contemplated for these functions. EPA encourages beneficial reuse of dredged material for this project as practicable. We recommend that the opportunities and constraints with regard to the use of dredged material be discussed in the FEIS, both in terms of restoration activities and infrastructure reinforcement. In addition, the FEIS should discuss where off-site materials might originate, if known, and the environmental impacts that will occur to these borrow areas, which are connected actions per 40 CFR 1508.25(a). The location of the borrow ditch on the Cullinan site (p. 42) should also be disclosed.

- The DEIS/EIR identifies the existing wetland communities at the site (p. 89) but there is no discussion of Clean Water Act jurisdictional features or the specific regulatory process for construction, which will involve the loss of 853 acres of freshwater seasonal and emergent marsh wetlands (p. 111). The FEIS should address what regulatory processes will occur in relation to the dredge/fill of the existing jurisdictional wetlands. Comment
6
- The DEIS/EIR references the Napa-Sonoma Salt Marsh Restoration Project (NSRP) (p. 2) but the document provides very little information regarding this project, although it is clear there is interest in coordinating this project with the NSRP. Some additional information regarding this project and how it relates to the Cullinan Ranch project would be helpful. Coordinated monitoring and adaptive management decision-making should also be discussed. Comment
7



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
601 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

JUL 31 2008

In response refer to:
T/SWR/2008/04807

Mr. Steve Thompson
U.S. Fish and Wildlife Service
California and Nevada Region
2800 Cottage Way, Room W-2606
Sacramento, California 95825-1846

Dear Mr. Thompson,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) for the Cullinan Ranch Unit Restoration Project, which is part of the San Pablo Bay National Wildlife Refuge and is located on the north shore of San Pablo Bay in Solano County, California. The Southwest Regional Office of the National Marine Fisheries Service (NMFS) Habitat Conservation Division would like to express our general support for the project.

Historically the Cullinan Ranch Unit belonged to a large tidal wetland complex along the lower Napa River, but in the early 1900's the site was diked and converted to uplands for agricultural purposes. The preferred alternative would fully restore tidal influence to 1,525 acres on the site by breaching perimeter levees. Prior to levee breach construction, two water control structures would be installed in the Pond 1 levee, on the western side of the site, and the restoration site would be slowly flooded. Intake pipes for Pond 1 are located in San Pablo Bay and the pond would be managed by California Department of Fish and Game for waterfowl. After approximately two weeks, breeches would occur along the perimeter levees for Dutchman and South Slough and Guadalcanal Village; this would restore tidal influence to the site. The site has subsided approximately 5 to 6 feet from the original non-diked elevations and the estimated rate of sediment accretion has predicted approximately 60 years for the site to reach an elevation for low marsh plain colonization.

There are 14 species of fish known to occur in the San Pablo Bay region that are federally managed by the Fishery Management Plans (FMP) under the Magnuson-Stevens Fishery Conservation and Management Act (MSA):

Pacific Groundfish FMP -- 11 species of flatfish, sharks, rockfishes, *etc.*
Coastal Pelagic FMP -- northern anchovy and Pacific sardine
Pacific Coast Salmon FMP -- Chinook salmon



2

The San Francisco Bay (SF Bay) is identified as essential fish habitat (EFH) for various life stages of fish species managed by these three FMPs. In addition, the SF Bay is designated as Habitat Areas of Particular Concern for various fish species within the Pacific Groundfish FMP.

The Cullinan Ranch Unit restoration project has the potential to benefit MSA managed species and their associated estuarine habitat, especially if the predicted trajectory of tidal marsh habitats successfully develops within the site.

Although we generally support restoration at the Cullinan Ranch Unit, our agency does have some outstanding concerns about the impact of the project on EFH. One issue is the potential for temporary fish entrainment in the pre-restoration flooding of the site and the exposure of fish to poor water quality conditions. In the predicted 60 years after tidal restoration occurs, low elevations will prevent the site from completely draining at low tides. This will reduce water circulation and could result in degraded water quality within the site. Degraded water quality may include increased temperature, increased salinity, and decreased levels of dissolved oxygen. Exposure of entrained fish to these conditions could have lethal effects. The proposed adaptive management plan could be used to monitor water circulation and to modify the design to reduce the potential for poor water quality. Additionally, we have concerns regarding the possible exchange of water between Pond 1 and the remainder of the restoration site. Allowing water from the managed pond into the restoration site, especially if water circulation is limited, could contribute to degraded water quality. If water is allowed to enter Pond 1 from the restoration site, fish entrapment could occur. Further discussions between NMFS and U.S. Fish & Wildlife Service should occur to resolve these issues.

Comment

1

Comment

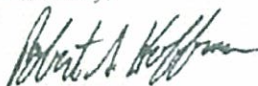
2

Comment

3

For questions regarding these comments please contact Rachael Wadsworth at (707) 575-6067, or via email at rachael.wadsworth@noaa.gov.

Sincerely,



Robert S. Hoffman
Assistant Regional Administrator
for Habitat Conservation

cc: Bryant Chesney, NMFS, Long Beach, California
Dick Butler, NMFS, Santa Rosa, California
Korie Schaeffer, NMFS, Santa Rosa, California
✓ Christy Smith, USFWS, Petaluma, California
File: 150316SWR2008SR00298

Renee Spenst

From: Gary Stern [Gary.Stern@noaa.gov]
Sent: Wednesday, July 23, 2008 4:39 PM
To: Renee Spenst
Cc: Rachael Wadsworth; Christy_Smith@fws.gov
Subject: Re: [Fwd: Re: Cullinan Ranch]

Attachments: fishscrn.pdf; Gary_Stern.vcf



fishscrn.pdf (63 KB) Gary_Stern.vcf
(528 B)

Hi Renee,

The Napa River supports threatened Central California Coast steelhead. San Pablo Bay supports endangered Sacramento River winter-run Chinook, threatened spring-run Chinook, and threatened Central Valley steelhead. All these species migrate through the lower Napa River and SF Bay between November and June. Construction from June 15 to October 31 avoids their migration. The southern distinct population segment of North American sturgeon occur in San Pablo Bay year-round - there is no construction window. Any water pumped from the Napa River or San Pablo Bay should be screened per the NMFS guidelines. I have attached these guidelines.

I anticipate FWS will prepare a biological assessment for this project and initiate a section 7 consultation with NMFS,

Gary

Rachael Wadsworth wrote:

> Gary,
>
> Forwarded is a work window question for a proposed restoration project
> located north of Hwy 37 near San Pablo Bay, next to Napa Salt Plant
> Restoration area. I am reviewing the DEIS/R and it looks like there
> will be some temporary entrainment effects, in the initial restoration
> phase, when water is piped in from San Pablo Bay to raise the pond
> level before the levee is breached. Not sure if you have issues with
> this? Let me know if you would like the CD for the DEIR/S.

> Thanks,
> Rachael

>

>

> -----

> --

>

> Subject:
> RE: Cullinan Ranch
> From:
> Renee Spenst <rspenst@ducks.org>
> Date:
> Wed, 23 Jul 2008 09:46:25 -0500
> To:
> Rachael Wadsworth <Rachael.Wadsworth@noaa.gov>

>

> To:
> Rachael Wadsworth <Rachael.Wadsworth@noaa.gov>

>

>

> Rachael,

>

Email
Comment

> Can you tell me the typical avoidance window for salmonids in the vicinity of Cullinan Ranch? We're putting together a tentative construction time line.

>

> Thanks!

>

> Renee

>

>

> Renée Spenst, Ph.D.

> Regional Biologist, San Francisco Bay Area

> 3074 Gold Canal Drive

> Rancho Cordova, CA

> Office: (916) 852-2000

>

>

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION

111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 622-6441
FAX (510) 286-5559
TTY 711



*Flex your power!
Be energy efficient!*

June 12, 2008

BAG005
SOL/NAP-37
SCH#2007092004

Mr. Larry Wyckoff
California Department of Fish and Game
Central Coast Region
P.O. Box 47
Yountville, CA 94599

Dear Mr. Wyckoff:

**Cullinan Ranch Restoration Project – Draft Environmental Impact Statement/
Environmental Impact Report (EIS/EIR)**

Thank you for continuing to include the California Department of Transportation (Department) in the environmental review process for the Cullinan Ranch Restoration Project. The following comments are based on the Draft EIS/EIR.

Geotechnical Issues

- Geotechnical investigation is needed for the area along State Route (SR) 37.] *Comment 1*
- Please prepare a complete design for the buttress levee including height, slope, identification of the type of soil used, compaction, and armoring or type of rip/rap used.

Traffic Safety

- Due to a high number of truck trips to and from the site, it is recommended that this activity take place during non-peak traffic hours to minimize impacts to SR-37.
- According to the Draft EIR, trucks leaving Cullinan Ranch would have to travel 6 miles +/- on westbound SR-37 and turnaround at Skaggs Island Road to be on eastbound SR-37. It may be difficult for this intersection to accommodate a high number of trucks turning out of Skaggs Island Road into eastbound SR-37. Additionally trucks travelling from Skaggs Island Road that merge onto SR-37 should have a standard acceleration distance when merging onto SR-37.
- For construction of acceleration/deceleration lanes along SR-37, please be aware that layout/geometric plans should be coordinated with the Department.
- Please check the turn templates for trucks at Skaggs Island Road.

comment 2

"Caltrans improves mobility across California"

Mr. Larry Wyckoff /California Department of Fish and Game
June 12, 2008
Page 2

Water Quality and Erosion Control

Please provide additional information on the drainage of water from the freeway via the grassy swale to the proposed detention basin at Guadalcanal Village:

- Information regarding tidal conditions during different times of the year.
- An additional discussion on whether this detention basin will have enough storage capacity to store water until it can drain out into Cullinan Ranch when tide conditions permit.
- Depending on tidal conditions, the water in the detention basin may not drain for several hours. A flood routing of multiple storm frequencies and durations should be provided to address the capacity of this detention basin.
- Discharge entering the State Right of Way (ROW) should comply with the Department's statewide NPDES permit with the State Water Resource Control Board (construction as well as permanent runoff).

comment
3

Cultural Resources

State ROW has been previously surface surveyed for cultural resources in the project location along Route 37 resulting in negative findings. However, if there is an inadvertent archaeological or burial discovery during construction activities, in compliance with CEQA, PRC 5024.5, and the Department's Standard Environmental Reference (SER) Chapter 2 (at <http://ser.dot.ca.gov>), all construction within 50 feet of the find shall cease.

comment
4

The Caltrans Cultural Resource Studies Office, District 4, shall be immediately contacted at (510) 286-5618. A staff archaeologist will evaluate the finds within one business day after contact. Archeological resources may consist of, but are not limited to, dark, friable soils, charcoal, obsidian or chert flakes, grinding bowls, shell fragments, or deposits of bone, glass, metal, ceramics or wood.

Encroachment Permit

Any work or traffic control within the State ROW requires an encroachment permit that is issued by the Department. Traffic-related mitigation measures will be incorporated into the construction plans during the encroachment permit process. See the following website link for more information: <http://www.dot.ca.gov/hq/traffops/developserv/permits/>

comment
5

To apply for an encroachment permit, submit a completed encroachment permit application, environmental documentation, and five (5) sets of plans which clearly indicate State ROW to the address at the top of this letterhead, marked ATTN: Michael Condie, Mail Stop #5E.

The Department will not issue an encroachment permit until our concerns are adequately addressed. Therefore, we strongly recommend that the lead agency ensure resolution of the Department's CEQA concerns prior to submittal of the encroachment permit application.

"Caltrans improves mobility across California"

Mr. Larry Wyckoff /California Department of Fish and Game
June 12, 2008
Page 3

Should you have any questions regarding this letter, please contact Lisa DePass-Stulgaitis of my staff at (510) 286-5505.

Sincerely,



LISA CARBONI
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

"Caltrans improves mobility across California"